

Listing of Claims

1. (Currently Amended) A viewing system ~~(150)~~, comprising acquisition means ~~(151)~~ for acquiring a sequence of images ~~(IS)~~, detection means ~~(20)~~ for detecting an object of interest ~~(2, 17)~~ in said sequence of images ~~(IS)~~, said detection means ~~(20)~~ comprising:
 - localizer detection sub-means ~~(30)~~ for detecting a location ~~(L₁, L₂)~~ of localizers related to said object of interest,
 - border detection sub-means ~~(60)~~ for detecting a location of borders ~~(BL)~~ related to said object of interest, using said location of localizers,and viewing means ~~(154)~~ for displaying said sequence of images ~~(IS)~~.
2. (Currently Amended) A viewing system ~~(150)~~ as claimed in claim 1, wherein said border detection sub-means ~~(60)~~ comprise:
 - initialization sub-means ~~(61)~~ for building an initial contour ~~(EIC, RIC)~~ of said borders, containing said localizers ~~(L₁, L₂)~~, from a priori knowledge about said object of interest,
 - active contour sub-means ~~(62)~~ for moving said initial contour ~~(EIC, RIC)~~ under the effect of forces related to said object of interest ~~(2, 17)~~ within said sequence of images ~~(IS)~~.
3. (Currently Amended) A viewing system ~~(150)~~ as claimed in claim 1 ~~or 2~~, comprising enhancement means ~~(70)~~ for enhancing said borders using said location of borders ~~(BL)~~ and delivering a sequence of enhanced images ~~(EIS)~~.
4. (Currently Amended) A viewing system ~~(150)~~ as claimed in claim 1 ~~or 2~~, comprising measurement means ~~(71)~~ for measuring characteristics ~~(CM)~~ of said object of interest using said location of borders ~~(BL)~~.
5. (Currently Amended) A viewing system ~~(150)~~ as claimed in claim 4, wherein said characteristics ~~(CM)~~ are widths of said object of interest along a length of said object of interest.

6. (Currently Amended) A viewing system as claimed in claim 1 ~~or 2~~, wherein said acquisition means ~~(151)~~ are able to acquire at least two views of said object of interest, said viewing system also comprising 3D representation means ~~(72)~~ for delivering a 3D representation ~~(3DR)~~ of said object of interest from said views and said location of borders ~~(BL)~~.
7. (Currently Amended) A viewing system as claimed in claim 6, wherein a cylindrical model is used by said 3D representation means ~~(72)~~ when said object of interest has a tubular shape.
8. (Currently Amended) A viewing system as claimed in ~~one of~~ claims 1 ~~to 7~~, wherein said object of interest is a stenosis ~~(2)~~ or a stent ~~(17)~~ and said localizers are a tip (9) or balloon markers ~~(13, 14)~~.
9. (Currently Amended) A viewing system as claimed in claim 3, wherein said viewing means ~~(154)~~ also comprise local registering means ~~(80)~~ for registering a sequence of reference images ~~(RIS(n))~~ with respect to said sequence of enhanced images ~~(EIS, EIS(t))~~ so as to form a new sequence of enhanced images ~~(NEIS(t))~~, in which said sequence of enhanced images and said sequence of reference images are combined.
10. (Currently Amended) A viewing system as claimed in claim 3, wherein said viewing means ~~(154)~~ also comprise local registering means ~~(80)~~ for registering said sequence of enhanced images ~~(EIS, EIS(t))~~ with respect to a sequence of reference images ~~(RIS(n))~~ so as to form a new sequence of reference images ~~(NRIS(n))~~, in which said sequence of enhanced images and said sequence of reference images are combined.
11. (Currently Amended) A method, comprising a detection step ~~(20)~~ for detecting an object of interest in a sequence of images ~~(IS)~~, said detection step comprising sub-steps of:

- localizer detection ~~(30)~~ for detecting a location of localizers ~~(L₁, L₂)~~ related to said object of interest,
- border detection ~~(60)~~ for detecting a location of borders ~~(BL)~~ related to said object of interest, using said location of localizers.

12. (Currently Amended) A device ~~(153)~~ comprising detection means ~~(20)~~ for detecting an object of interest in a sequence of images ~~(4S)~~, said detection means comprising:

- localizer detection sub-means ~~(30)~~ for detecting a location of localizers related to said object of interest,
- border detection sub-means ~~(60)~~ for detecting a location of borders ~~(BL)~~ related to said object of interest, using said location of localizers.

13. (Original) A computer program comprising a set of instructions for implementing a method as claimed in claim 11 when said program is executed by a processor.

14. (Currently Amended) A medical examination imaging apparatus comprising a viewing system ~~(150)~~ as claimed in ~~one of the~~ claims 1 to 10.